AMENDMENTS

Please amend the application as indicated hereafter.

In the Specification

Please amend the specification as indicated below. The language being added is underlined ("___") and the language being deleted contains strikethrough ("—"):

For the paragraph beginning on page 1, line 5:

The invention relates to a method of providing a constant AC voltage to a variable load which is arranged remote of a voltage source, a voltage drop over an electrical supply line which connects the load to the voltage source being compensated for by a compensation AC voltage which, if added to the constant AC voltage, results ~~into~~ in the output AC voltage of the voltage source, ~~and~~ the value of which is varied depending on the absolute value of the alternating current conducted to the load.

For the paragraph beginning on page 2, line 26:

In a further method of the type described at the beginning, in addition to the variation of the value of the compensation AC voltage depending on the total value of the alternating current conducted to the load, a compensation capacity is connected in series with the supply line connecting the load to the voltage source to compensate for the inductive reactance by means of a capacitive reactance to such an ~~extend~~ extent that the voltage drop over the electrical supply line is now only determined by its ohmic resistance which is only depending on the total value of the alternating current conducted to the load. The phase angle between the output AC voltage of the voltage source and the alternating current conducted to the load, however, depends on the inductivity of the

whole system, which may vary to a considerable extend. Thus, it is impossible, to adjust the phase angle to zero by means of a constant capacitance. On the other hand, considerable dangers are incurred by the additional high capacitance in the supply line to the load.

For the paragraph beginning on page 3, line 6:

As a further method of providing a constant AC voltage to a variable load which is arranged remote of a voltage source, a voltage drop over an electrical supply line which connects the load to the voltage source is compensated for by means of a compensation AC voltage which, if added to the constant AC voltage, results ~~into~~ in the output AC voltage of the voltage source, the AC voltage reaching the load being measured and being used as an actual value for controlling the voltage source. This method results in a constant AC voltage at the load independently of any changes in the whole system. However, problems can occur, if measuring supply lines which also run between the voltage source and the load, are affected by disturbances. The function of the known method is lost, if any of the measuring supply lines breaks.

For the paragraph beginning on page 5, line 7 (note, item to be deleted is marked with double-brackets "[[ ]]"):

The second constant C_L associated with the factors $|I|$ and sin(phi) represents the inductive reactance ωL of the supply line. In the new method, this value can be determine in that, with a mixed ohmic and inductive load at the place of the variable load, a total value of the output AC voltage $|U_{full}|$ provided by the voltage source, a total value of the

AC voltage $|U_{load}|$ dropping over the ohmic load, a total value of the current $|I|$ conducted at the same time, and the phase angle phi are measured. The mixed ohmic and inductive load at the place of the variable load can be the variable load itself. It is important, that the mixed ohmic and inductive load results in a considerable phase angle phi like that one which may occur in the operation of the variable load. The constant C_L can be determined from the measured values as $[|U_{full}| - |U_{load}| - C_R * |I| * \cos(phi)]/[|I| * \sin(phi)]$. Whereas it is assumed in determining the constant [[C_L]] $\underline{C_R}$ that the phase angle phi is negligible because of the pure ohmic load at the place of the variable load, it is assumed in determining the constant C_L that a phase angle between the output AC voltage of the voltage source and the AC voltage at the load is negligible or that at least any effects of a change in this phase angle are negligible at the end. The selection of the compensation AC voltage based on the above described summands including C_R and C_L is based on this assumption. However, it becomes apparent that this assumption does not result in relevant errors, i.e. despite the included approximation the AC voltage obtained at the load is very constant even with strong changes of the load.

For the paragraph beginning on page 5, line 27 :

This is particularly the case, if at least the constant C_L is determined at a value of ~~is~~ $|U_{load}|$ which is about equal to the desired constant AC voltage. I.e. at least the constant C_L, preferably both constants C_R and C_L, are determined under conditions for the supply line, which are close to the working conditions for the supply line, so that they also cover the properties of the voltage source under conditions close to the working conditions for the supply line.

For the paragraph beginning on page 6, line 1 (note, one item to be deleted is marked with double-brackets "[[ ]]"):

As[[,]] in the new method, measurements of the total value of the AC voltage $|U_{load}|$ ~~dropping~~ drop over the load are required, i.e. measurements at a place remote of the voltage source, it has been proved as advantageous that the constants C_R and C_L are at first approximated at a value of $|U_{full}|$ which is about equal to the desired constant AC voltage, and ~~that~~ then a value of $|U_{load}|$ which is equal to the desired constant AC voltage is approached with the approximated values. Afterwards, the final values of C_R and C_L are determined.

For the paragraph beginning on page 6, line 8:

If the voltage source is a rotating frequency converter, an exciting power of a generator is varied to achieve a variation of the compensation AC voltage. The variation of the exciting power of the generator varies the compensation AC voltage for all phases of the voltage source in the same way. Thus, a compromise has to be made. The ~~, If the~~ supply line to the load has different properties for the single phases. It is an option to determine the ideal compensation AC voltages for all phases and to calculate a mean value.

For the paragraph beginning on page 7, line 23:

In Fig. 2 all of these quantities are depicted as vectors. The vector difference between U_{full} and U_{load} comprises two components I*R and I*ωL. These two components are perpendicular to each other. Further, the orientation of the component I*R with regard

to U_{full} is determined by the phase angle phi between U_{full} and the current I conducted to the load. Thus, even with constant total values of $|I|*R$ and $|I|*\omega L$, the total value of $|U_{load}|$ may change with the phase angle phi to a considerable extent. Vice versa, this means that it is not sufficient for keeping a constant value of $|U_{load}|$ to vary $|U_{full}|$ by means of an addition which is only dependent on $|I|$. Instead, the phase angle phi has also to be considered. Naturally, this is particularly the case with a stronger variation of the values of phi. This stronger variation nearly occurs, if, for example, a constant AC voltage is to be provided to different airplanes on the ground as loads 1. Even with one and the same airplane, the phase angle phi may be strongly varied because of differing activations of electric and electronic equipment in the airplane, for example, upon switching on an electric ~~air-condition~~ air-conditioner.

For the paragraph beginning on page 9, line 12:

As a next step, the constant C_L is determined using the already determined constant C_R and further measurement values which are obtained with a mixed ohmic and inductive load at the place of the load 1. The mixed ohmic and inductive load can be the real load 1. Anyway, it is selected so that its inductive reactance part creates a significant phase angle phi so that cos(phi) is, for example, in the order of 0.8. With this load, the total values of U_{full}, U_{load}, I and phi are now measured. Then C_L is determined as $[|U_{full}| - |U_{load}| - C_R * |I| * \cos(phi)]/[|I| * \sin(phi)]$. This corresponds to the determination of ωL from the vector diagram according to Fig. 2 without considering the phase angle 4 between U_{full} and U_{load}, and under the assumption that C_R is R. With the values of C_R and C_L determined in this way, however, a compensation AC voltage is obtained by

calculating the above summands which results in an AC voltage U_{load} being provided to the load 1, which is constant within narrow limits over a broad range of variations of the load 1. I.e., the assumptions and approximations on which the steps of the new method are based are innocuous. In part, they are compensated for in that both in determining the constants, particularly ~~CL~~ C_L as a measure of the inductive reactance ωL, and in the later determination of the compensation voltage the phase angle 4 between U_{full} and U_{load} is not considered. So far as the phase angle 4 is approximately of the same size here, all resulting inaccuracies are nearly compensated for to their full extent. However, even the total of these inaccuracies is only small, because the phase angle 4 is much smaller than phi. With a supply line 2, the resistance properties of which do not ~~chance~~ change, the value of the voltage U_{load} can be kept constant by means of the compensation voltage consisting of the above indicated summands with a much smaller error than acceptable in usual applications. The compensation AC voltage is calculated in an optimum way, if the constants C_R and C_L have been determined under such conditions under which U_{load} has already been about equal to the desired AC voltage at the load. This can, for example, be achieved in that at first approximated values are obtained for C_R and C_L with the total value of U_{full} being set to the desired AC voltage. Then, a value is determined for U_{full} with these approximated values to re-measure at least C_L under such conditions under which U_{load} is about equal to the desired AC voltage. The new method can be implemented at comparatively little cost as, after the determination of the constants C_R and C_L, it only requires measurements of U_{full} and I, because these values also allow for a determination of the phase angle phi by means of a point by point multiplication, on the one hand, and a multiplication of the effective values, on the other hand. The calculation

of the compensation AC voltage from the two summands indicated above is obviously even more simple.

For the Abstract on page 16:

To the end of providing a constant AC voltage to a variable load (1) which is arranged remote of a voltage source (3), a voltage drop over an electrical supply line (2) which connects the load to the voltage source (3) is compensated for by a compensation AC voltage which, if added to the constant AC voltage, results into the output AC voltage U_{full} of the voltage source (3) and the value of which is varied depending on the absolute value of the alternating current (I) conducted to the load (1) and on the phase angle phi between the output AC voltage U_{full} of the voltage source (3) and the alternating current (I).

~~(Figure 1)~~